Observations of the Meteors of 1885, *November* 27, *made at the Radcliffe Observatory, Oxford.* By W. H. Robinson.

(*Communicated by E. J. Stone, M.A., F.R.S.*)

At $6^h\ 0^m$ P.M. (G.M.T.) great numbers of meteors were observed to be falling, and from comparison with subsequent observations in evening it was inferred that they were thicker about 6.30 than later. But clouds prevailed, more or less, in parts of the sky nearly all the evening.

About $7^h\ 0^m$ the sky was fairly clear, but at

$8^h\ 45^m$ thickly overcast.

At $6^h\ 30^m$, facing South: the meteors appeared to be falling in parallel lines, like the tracks of rain drops. Estimated that they were cutting parallels of Declination at about angles of 45°; but in order to secure greater accuracy reference was made to the stars, and here it was found that the direction was invariably from α *Andromedæ* to α *Pegasi*. Facing North: the meteors were all showering in one direction, as noticed in S., and here it was estimated that the general path formed with the meridian (*sub polo*) an angle of 30°, or more accurately, as ascertained at

$7^h\ 23^m$, from *Polaris* through a point half way between ϵ and ζ *Ursæ Majoris*. They were seldom 1^s in duration, generally $0^s{\cdot}5$ or less, and the usual length of path was between 5° and 10°. The meteors were fairly uniform in brightness, and equal to the brightest stars in *Ursa Major*, or about the second magnitude. Some were equal to α *Lyræ*, and many fainter than third magnitude. Did not notice any as bright as *Venus*, although specially watching for them.

$6^h\ 42^m$. Nearly overcast.

$6^h\ 45^m$. Breaks in N.E. Meteors still falling fast, and often visible through cloud when no stars appeared.

$7^h\ 0^m$. Sky clearing. In the W.S.W. the meteors were falling in the direction α to δ *Aquilæ*.

$7^h\ 33^m$. Facing East: appeared to be falling in the Prime Vertical.

$7^h\ 45^m$. Facing West: here also running down the Prime Vertical; clouding.

$8^h\ 15^m$. A clear patch in E. Meteors evidently becoming fewer here.

$8^h\ 30^m$. Clear in places. From south side of Observatory: noticed they were still falling rather fast, average

30 per minute. The brightest leave phosphorescent trains visible for more than 1ˢ after the meteor had disappeared.

8ʰ 38ᵐ. Several bright meteors in South about the magnitude of *Capella* and cutting near square of *Pegasus*. Observed in break of clouds.

9ʰ 30ᵐ. Partly clear in South. Meteors still falling fairly fast.

The tracks given above when referred to the stars are accurate, but the remainder are only approximate. From the former it is inferred that the radiant-point is situated about

R.A. 1ʰ 30ᵐ and N.P.D. 48°,

or very near 50 *Andromedæ*.

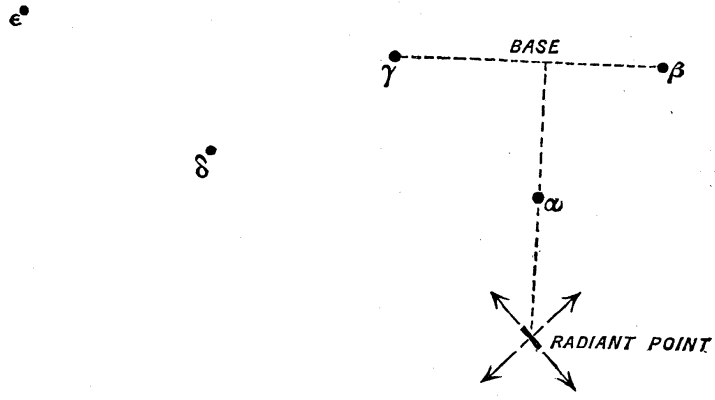
Radcliffe Observatory, Oxford:
1885, *December* 15.

Display of Meteors, 1885, *November* 27. By W. Wickham.

(*Communicated by E. J. Stone, M.A., F.R.S.*)

On the evening of Friday, November 27, I was walking between Islip and Charlton, two villages six to nine miles N.N.E. of Oxford. The night was very dark and cloudy, but at 5.35 P.M. (nearly) I noticed repeated bursts of light behind the clouds.

The sky began to clear in patches, and once, about 6.15 P.M., was almost free from cloud. Having no light with me I could neither record time nor track beyond making the following mental notes:—I remarked that the thickest display occurred about *Cassiopeia*, and it soon became evident that the radiant-point was somewhere S. beyond the five bright stars of *Cassiopeiæ*. Further examination led me to fix the radiant-point at a distance south beyond α *Cassiopeiæ*, equal to a perpendicular let fall from α *Cassiopeiæ* upon a base drawn between β and γ *Cassiopeiæ* (and near ν *Cassiopeiæ*), as shown in the following sketch:—



Most of the time I was facing N.N.E., but turning due south I noticed the general direction of the meteor-paths to be in a